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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,322	06/13/2001	Walter H. Runkis		5476

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EXAMINER	
CLARDY, S	

ART UNIT	PAPER NUMBER
1617	

DATE MAILED: 03/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/880,322	RUNKIS, WALTER H.	
	Examiner	Art Unit	
	S. Mark Clardy	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *42-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *42-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

New claims 42-60 are pending in this application which has also been filed as international application PCT/US02/18367.

Applicant's claims are drawn to:

1. Ready-to-use (RTU) macro- or micro- nutrient compositions (product-by-process claims 51-55) comprising water solution stable products which are the reaction product of:

a) a sulfamic acid moiety

b) a substantially water insoluble compound with macronutrient[1] and/or micronutrient[2] components.

2. Methods using the RTU composition to correct specifically determined pre-existing nutrient deficiencies in plant growing media (claims 42-50).

3. Methods of making the RTU compositions in order to correct the nutrient deficiencies which have been determined to exist (claims 56-60).

The rejections under 35 USC 112 and 102 are withdrawn in response to applicant's amendment.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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[1]Applicant includes both the conventional primary nutrients, NPK, and secondary nutrients, Ca, S, and Mg.

[2]Fe, Mn, B, Zn, Cu, Mo, Cl, Na (for halites), Co, Ni

Claims 42-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Woodhouse (US 2,237,826) and Kirk-Othmer[3].

Woodhouse, again, teaches the addition of sulfamic acid or salts thereof to aqueous fertilizer compositions comprising ammonium, phosphate, and other conventional fertilizer materials. Fertilizer components may comprise calcium, magnesium, sulfate, phosphate, potassium (potash), ammonium, and nitrate species (columns 2-3). It is irrelevant why Woodhouse combined fertilizer and sulfamic acid components; the fact remains that they were combined. The physical characteristic of the compounds which would result from the combination of compounds (which applicant has stated will spontaneously react), would necessarily be present. Woodhouse further discloses the utility of making fertilizer compositions which possess a desirable proportion of ingredients, necessarily in response to some predetermined need (or deficiency) which exists in the plant or soil to which the fertilizer is to be applied (p. 2, left column, lines 24-36). Note that it is a conventional practice in the fertilizer art to determine what is needed prior to applying fertilizer; otherwise the applied composition may be inappropriate, or of the wrong concentration. Applicant argues that the reaction product of sulfamic acid compounds with nutrient materials as disclosed in Woodhouse is different from the reaction product claimed herein. It would appear, however, that given the generic nature of the claimed reaction products herein, that those disclosed in Woodhouse would fall within the scope of the instant claims.

Kirk-Othmer, again, teaches that "sulfamic acid readily forms various metal sulfamates by reaction with the metal or the respective carbonates, oxides, or hydroxides" (p. 122), and exemplary reactions are provided for sulfamic acid with zinc (metal), calcium carbonate, iron (II) oxide, and nickel (II) hydroxide. On p. 124, it is disclosed that "primary, secondary, and tertiary amines react with sulfamic acid to form ammonium salts." Finally, "sulfamates are formed

[3] Kirk-Othmer. *Encyclopedia of Chemical Technology*, 4th ed., vol 23. "Sulfamic acid and sulfamates", p. 120-133. 1997.

readily by the reaction of sulfamic acid and the appropriate metal or its oxide, hydroxide, or carbonate... Sulfamates prepared from weak bases form acidic solutions, whereas those prepared from strong bases produce neutral solutions... Inorganic sulfamates are quite water soluble, except for the basic mercury salt." Relative solubilities are provided for various sulfamates, including ammonium, sodium, magnesium calcium and zinc (p. 125). Regarding "plant growth promoting amounts" in the claims, it is noted that any concentration of known plant nutrients would provide a "plant growth promoting amount", and that any amount of water in such compositions would similarly be a "plant growth promoting amount". Further, deficiency correcting amounts depend as much on application rates, as on composition concentrations which are typically much more concentrated than required, unless provided in a "ready to use" form.

Again, one of ordinary skill in the art would be motivated to combine these references because Woodhouse discloses fertilizer compositions comprising the reaction product of fertilizer compounds with sulfamic acid, the properties and synthesis of which are taught in Kirk-Othmer.

Thus, again, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have combined applicant's fertilizer components with sulfamic acid because Woodhouse teaches that such compositions are useful as fertilizers. Kirk-Othmer teaches that such compounds may be made by the addition of sulfamic acid or derivatives thereof, to metals or their carbonates, oxides, or hydroxides. Again, it is a conventional practice in the fertilizer art to determine what is needed prior to applying fertilizer; otherwise the applied composition may be inappropriate, or of the wrong concentration.

Finally, applicant has added claims pertaining to an automation or robotics feature (claims 49-50). While this is supported in the specification, the act of automating a process is seen as an obvious variant of manually carrying out the invention.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mark Clardy whose telephone number is 571-272-0611. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Mark Clardy
Primary Examiner
Art Unit 1617

March 27, 2006